The opinion in support of the decision being entered today
is not binding precedent of the Board.

Paper No. 76

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

WALTER L. MILLER, JOSEPH AUGUSTIN MARTIAL, AND JOHN D. BAXTER

Junior Party,[1]

v.

HAIM AVIV, ELIYAHU KESHET, MARIAN GORECKI, AND ARIE ROSNER

Senior Party[2]

Patent Interference No. 103,925

JUDGMENT PURSUANT TO 37 CFR § 1.662(a)

METZ, PATE, and LORIN, Administrative Patent Judges.

LORIN, Administrative Patent Judge.

[1] Application 07/480,745, filed 02/15/90. Assignors to Regents of the University of California (see Paper No. 18.)

[2] Application 08/457,519, filed 06/01/95. Assignors to Yeda Research and Development Company Limited, Israel. (see Paper No. 17).

Aviv et al., the senior party, has filed a "Concession Of Priority [&] Request For Judgment By The Party Aviv". In it (Paper No. 73, p. 2) Aviv et al. states that it "concedes priority to the Party Miller et al and requests judgment be entered in this interference in favor of Party Miller et al and against the Party Aviv et al." A "concession of priority … will be treated as a request for entry of an adverse judgment against the applicant or patentee as to all claims which correspond to the count," 37 CFR § 1.662(a).

Parties will recall that sole Count 1 defines the interfering subject matter, 37 CFR § 1.601(f):

COUNT 1

> A method of producing bovine growth hormone comprising the amino acid sequence encoded by the coding sequence from nucleotide 87 to nucleotide 659 depicted in Figure 1[3] comprising extracting RNA from bovine pituitaries, transcribing the RNA so extracted into DNA, splicing the resulting DNA into a microorganism, selecting and isolating microorganism colonies which produce bovine growth hormone and extracting the bovine growth hormone.

The parties' claims which are designated to correspond to Count 1 are (see Paper No. 1):[4]

- Miller '745 application: claims 31-32, 34-35, 37-38, 40-41 and 57.
- Aviv '519 application: claim 13.

[3] I.e., of Aviv interfering application '519; Figure 1 is reproduced in Appendix 1 (the amino acid sequence referred to in the count is indicated in bold).

[4] See Appendix 2.

Accordingly, JUDGMENT as to the subject matter of the count in issue is hereby awarded to Miller et al., the junior party, and against Aviv et al., the senior party. Accordingly, Aviv et al., the senior party is not entitled to their application containing claim 13 corresponding to Count 1 and Miller et al., the junior party, is entitled to their application containing claims 31-32, 34-35, 37-38, 40-41 and 57 corresponding to Count 1.

ANDREW H. METZ)
Administrative Patent Judge)
)
)
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WILLIAM F. PATE, III) BOARD OF PATENT
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APPENDIX 1

```
                10                  20                  30                  40                  50
                 *                   *                   *                   *                   *
 GG GGG GGG GGG GCT GCA GGC CCC CGG ACC TCC CTG CTC CTG GCT TTC GCC CTG
                Ala  Ala Gly Pro Arg Thr Ser Leu Leu Leu Ala Phe Ala Leu

          60                  70                  80                  90                 100
           *                   *                   *                   *                   *
CTC TGC CTG CCC TGG ACT CAG GTG GTG GGC GCC TCC CAA GCC ATG TCC TTG TCC
Leu Cys Leu Pro Trp Thr Gln Val Val Gly Ala Phe Pro Ala Met Swr Leu Ser

  110                 120                 130                 140                 150                 160
   *                   *                   *                   *                   *                   *
GGC CTG TTT GCC AAC GCT GTG CTC CGG GCT CAG CAC CTG CAC CAG CTG GCT GCT
Gly Leu Phe Ala Asn Ala Val Leu Arg Ala Gln His Leu His Gin Leu Ala Ala

             170                 180                 190                 200                 210
              *                   *                   *                   *                   *
GAC ACC TTC AAA GAG TTT GAG CGC ACC TAC ATC CCG GAG GGA CAG AGA TAC TCC
Asp Thr Phe Lys Glu Phe Glu Arg Thr Tyr Ile Pro Glu Gly Gln Arg Tyr Ser

       220                 230                 240                 250                 260
        *                   *                   *                   *                   *
ATC CAG AAC ACC CAG GTT GCC TTC TGC TTC TCT GAA ACC ATC CCG GCC CCC ACG
Ile Gln Asn Thr Gln Val Ala Phe Cys Phe Ser Glu Thr Ile Pro Ala Pro Thr

270                 280                 290                 300                 310                 320
 *                   *                   *                   *                   *                   *
GGC AAG AAT GAG GCC CAG CAG AAA TCA GAC TTG GAG CTG CTT CGC ATC TCA CTG
Gly Lys Asn Glu Ala Gln Gln Lys Ser Asp Leu Glu Leu Leu Arg Ile Ser Leu

         330                 340                 350                 360                 370
          *                   *                   *                   *                   *
CTC CTC ATC CAG TCG TGG CTT GGG CCC CTG CAG TTT CTC AGC AGA GTC TTC ACC
Leu Leu Ile Gln Ser Trp Leu Gly Pro Leu Gln Phe Leu Ser Arg Val Phe Thr

 380                 390                 400                 410                 420                 430
  *                   *                   *                   *                   *                   *
AAC AGC TTG GTG TTT GGC ACC TCG GAC CGT GTC TAT GAG AAG CTG AAG GAC CTG
Asn Ser Leu Val Phe Gly Thr Ser Asp Arg Val Tyr Glu Lys Leu Lys Asp Leu

            440                 450                 460                 470                 480
             *                   *                   *                   *                   *
GAG GAA GGC ATC CTG GCC CTG ATG CGG GAG CTG GAA GAT GGC ACC CCC CGG GCT
Glu Glu Gly Ile Leu Ala Leu Met Arg Glu Leu Glu Asp Gly Thr Pro Arg Ala

      490                 500                 510                 520                 530
       *                   *                   *                   *                   *
GGG CAG ATC CTC AAG CAG ACC TAT GAC AAA TTT GAC ACA AAC ATG CGC AGT GAC
Gly Gln Ile Leu Lys Gln Thr Tyr Asp Lys Phe Asp Thr Asn Met Arg Ser Asp

540                 550                 560                 570                 580                 590
 *                   *                   *                   *                   *                   *
GAC GCG CTG CTC AAG AAC TAC GGT CTG CTC TCC TGC TTC CGG AAG GAC CTG CAT
Asp Ala Leu Leu Lys Asn Tyr Gly Leu Leu Ser Cys Phe Arg Lys Asp Leu His

         600                 610                 620                 630                 640
          *                   *                   *                   *                   *
AAG ACG GAG ACG TAC CTG AGG GTC ATG AAG TGC CGC CGC TTC GGG GAG GCC AGC
Lys Thr Glu Thr Tyr Leu Arg Val Met Lys Cys Arg Arg Phe Gly Glu Ala Ser

 650                 660                 670                 680                 690                 700
  *                   *                   *                   *                   *                   *
TGT GCC TTC TAG TTG CCA GCC ATC TGT TGT TTG CCC CTC CCC CGT GCC TTC CTT
Cys Ala Phe ---

            1710                1720                1730                1740                1750
             *                   *                   *                   *                   *
GAC CCT GGA AGG TGC CAC TCC CAC TGT CCT TTC CTA ATA AAA TGA GGA AAT TGC

      760                 770         780                 790                 800
       *                   *           *                   *                   *
ATC GCA AAA AAA AAA AAA AAA AAC CCC CCC CCC CCT GCA GT
```

APPENDIX 2

- **Claims 31-32, 34-35, 37-38, 40-41 and 57 of Miller '745 application:**

31. A composition of DNA molecules which consists of DNA molecules encoding bovine growth hormone comprising the amino acid sequence:

```
                                    10
phe pro ala met ser leu ser gly leu phe ala asn ala val leu
             20                                      30
arg ala gln his leu his gln leu ala ala asp thr phe lys glu
                                    40
phe glu arg thr tyr ile pro glu gly gln arg tyr ser ile gln
             50                                      60
asn thr gln val ala phe cys phe ser glu thr ile pro ala pro
                                    70
thr gly lys asn glu ala gln gln lys ser asp leu glu leu leu
             80                                      90
arg ile ser leu leu leu ile gln ser trp leu gly pro leu gln
                                   100
phe leu ser arg val phe thr asn ser leu val phe gly thr ser
            110                                     120
asp arg val tyr glu lys leu lys asp leu glu glu gly ile leu
                                   130
ala leu met arg glu leu glu asp gly thr pro arg ala gly gln
            140                                     150
ile leu lys gln thr tyr asp lys phe asp thr asn met arg ser
                                   160
asp asp ala leu leu lys asn tyr gly leu leu ser cys phe arg
            170                                     180
lys asp leu his lys thr glu thr tyr leu arg val met lys cys
                                   190 191
arg arg phe gly glu ala ser cys ala phe.
```

32. A recombinant DNA molecule which comprises a segment encoding a protein in a condition substantially free of DNA encoding bovine pituitary protein other than bovine growth hormone, wherein said segment encodes a protein comprising the amino acid sequence:

```
                                    10
phe pro ala met ser leu ser gly leu phe ala asn ala val leu
             20                                      30
arg ala gln his leu his gln leu ala ala asp thr phe lys glu
                                    40
phe glu arg thr tyr ile pro glu gly gln arg tyr ser ile gln
             50                                      60
asn thr gln val ala phe cys phe ser glu thr ile pro ala pro
                                    70
```

```
thr gly lys asn glu ala gln gln lys ser asp leu glu leu leu
             80                                      90
arg ile ser leu leu leu ile gln ser trp leu gly pro leu gln
                                100
phe leu ser arg val phe thr asn ser leu val phe gly thr ser
            110                                     120
asp arg val tyr glu lys leu lys asp leu glu glu gly ile leu
                                130
ala leu met arg glu leu glu asp gly thr pro arg ala gly gln
            140                                     150
ile leu lys gln thr tyr asp lys phe asp thr asn met arg ser
                                160
asp asp ala leu leu lys asn tyr gly leu leu ser cys phe arg
            170                                     180
lys asp leu his lys thr glu thr tyr leu arg val met lys cys
                                190 191
arg arg phe gly glu ala ser cys ala phe.
```

34. The recombinant DNA molecule of claim 32 which further comprises sequences capable of effecting the expression of said segment when contained in a microorganism.

35. A microorganism transformed with the DNA molecule of claim 32.

37. A microorganism transformed with the DNA molecule of claim 34.

38. A method to produce bovine growth hormone which method comprises culturing the microorganism of claim 37 under conditions wherein said expression is effected to produce said bovine growth hormone; and

recovering the bovine growth hormone from the culture.

40. A microorganism that contains bovine growth hormone which hormone has the amino acid sequence:

```
                                10
phe pro ala met ser leu ser gly leu phe ala asn ala val leu
             20                                      30
arg ala gln his leu his gln leu ala ala asp thr phe lys glu
                                40
phe glu arg thr tyr ile pro glu gly gln arg tyr ser ile gln
             50                                      60
asn thr gln val ala phe cys phe ser glu thr ile pro ala pro
                                70
thr gly lys asn glu ala gln gln lys ser asp leu glu leu leu
             80                                      90
arg ile ser leu leu leu ile gln ser trp leu gly pro leu gln
                                100
```

```
phe leu ser arg val phe thr asn ser leu val phe gly thr ser
            110                                 120
asp arg val tyr glu lys leu lys asp leu glu glu gly ile leu
                                130
ala leu met arg glu leu glu asp gly thr pro arg ala gly gln
            140                                 150
ile leu lys gln thr tyr asp lys phe asp thr asn met arg ser
                                160
asp asp ala leu leu lys asn tyr gly leu leu ser cys phe arg
            170                                 180
lys asp leu his lys thr glu thr tyr leu arg val met lys cys
                                190 191
arg arg phe gly glu ala ser cys ala phe.
```

41. A method to produce bovine growth hormone from a recombinant DNA vector, which method comprises:

a) preparing cDNA from RNA isolated from a bovine source which DNA encodes bovine growth hormone;

b) preparing a first DNA segment from the cDNA prepared in step a);

c) preparing a second DNA segment from a host vector capable of replicating in a microorganism and containing control sequences for expression;

d) ligating the first DNA segment to the second DNA segment to form an expression vector effective in expressing the first DNA segment encoding bovine growth hormone;

e) inserting the expression vector into a microorganism;

f) growing the microorganism in culture under conditions wherein said bovine growth hormone is produced; and

g) recovering said bovine growth hormone from the culture.

57. A method to produce bovine growth hormone which method comprises recovering the bovine growth hormone from the microorganism of claim 40.

- **Claim 13 of Aviv '519 application:**

13. A method of producing bovine growth hormone comprising the amino acid sequence encoded by the coding sequence from nucleotide 87 to nucleotide 659 depicted in Figure 1 comprising extracting RNA from bovine pituitaries, transcribing the RNA so extracted into DNA, splicing the resulting DNA into a plasmid, inserting the plasmid containing the spliced DNA into a microorganism, selecting and isolating microorganism colonies which produce bovine growth hormone and extracting the bovine growth hormone.